**IN THE CLAIMS:**

Please amend the claims to read as follows:

1-24. (Cancelled).

25. (New) A process for producing metal nanoparticle-nucleic acid composites, comprising:

reacting a nucleic acid specific metal complex with a nucleic acid to produce a metal complex-nucleic acid conjugate;

removing any non-conjugated metal complexes and/or non-conjugated by-products; and

reacting the metal complex-nucleic acid conjugate with a reducing agent to produce a metal nanoparticle-nucleic acid composite,

wherein the metal complex-nucleic acid conjugate is formed by the specific metalation of bases of the nucleic acid and/or interactive ligand binding, and wherein the metal nanoparticle is catalytically active towards electroless metallisation.

26. (New) The process according to claim 1, wherein the nucleic acid is dissolved in a solution, immobilized on a substrate or in a semisolid state.

27. (New) The process according to claim 1, wherein the nucleic acid is selected from the group consisting of DNA, RNA, PNA, CNA, oligonucleotides, oligonucleotides of DNA, oligonucleotides of RNA, primers, A-DNA, B-DNA, Z-DNA, polynucleotides of DNA, polynucleotides of RNA, T-junctions of nucleic acids, triplexes of nucleic acids, quadruplexes of nucleic acids, domains of non-nucleic acid polymer-nucleic acid block-copolymers and combinations thereof.

28. (New) The process according to claim 1, wherein the nucleic acid is double-stranded or single-stranded.

29. (New) The process according to claim 1, wherein the nucleic acid specific metal complex is selected from the group consisting of dichloro(2,2':6',2"-terpyridine)platinum(II), cis-diaminodichloroplatinum(II) and metal complexes with attached or integrated nucleic acid interacting groups.

30. (New) The process according to claim 1, wherein the metal complex-nucleic acid conjugate is separated from a non-conjugated metal complex and/or non-conjugated by-products by chromatography, precipitation or rinsing.

31. (New) The process according to claim 1, wherein the metal complex-nucleic acid conjugate is reacted with at least one reducing agent selected from the group consisting of boron hydrides, borohydride salts, Lewis base:borone complexes of the general formula $L:BH_3$, wherein L is amine, ether, phosphine or sulfide, hydrazine and derivatives, hydroxylamine and derivatives, hypophosphite salts, formate salts, dithionite salts and $H_2$.

32. (New) The process according to claim 31, wherein the reducing agent is a gaseous reducing agent.

33. (New) The process according to claim 1, wherein the metal nanoparticle comprises at least one metal selected from the group of Fe, Co, Ni, Cu, Ru, Rh, Pd, Ag, Os, Ir, Pt, Au or combinations of these metals.

34. (New) The process according to claim 1, wherein the metal nanoparticle cannot be visualized by atomic force microscopy or wherein the diameter of the metal nanoparticle is smaller than 3nm.

35. (New) The process according to claim 1, further comprising the step of treating the metal nanoparticles within the metal nanoparticle-nucleic acid composite with an electroless plating solution to enlarge the metal nanoparticles.

36. (New) The process according to claim 35, wherein the metal complex-nucleic acid composite is dissolved in a solution, immobilized on a substrate or in a semisolid state.

37. (New) The process according to claim 35, wherein the metal complexes are treated with an electroless plating solution comprising at least one of the metals selected from the group consisting of Fe, Co, Ni, Cu, Ru, Rh, Pd, Os, Ir, Ag, Pt, Au or combinations or alloys thereof.

38. (New) The process according to claim 35, wherein the metal nanoparticles are treated with an electroless plating solution comprising at least one of the metals selected from the group consisting of magnetic and/or magnetized Fe, Co, Ni, or combinations or alloys of these metals or combinations or alloys of these metals with B or P.

39. (New) A metal nanoparticle-nucleic acid composite produced by the method of claim 1, wherein the metal nanoparticles have a diameter of less than 3 nm or cannot be visualized by atomic force microscopy.

40. (New) A process for the manufacture of a nanowire, comprising providing a metal nanoparticle-nucleic acid composite produced by a process comprising reacting a nucleic acid specific metal complex with a nucleic acid to produce a metal complex-nucleic acid conjugate; removing any non-conjugated metal complexes and/or non-conjugated by-products;
reacting the metal complex-nucleic acid conjugate with a reducing agent to produce a metal nanoparticle-nucleic acid composite; and growing the nanoparticle by electroless deposition of a metal selected from the group consisting of Fe, Co, Ni, Cu, Ru, Rh, Pd, Os, Ir, Ag, Pt, Au or combinations or alloys thereof,
wherein the metal complex-nucleic acid conjugate is formed by the specific metalation of bases of the nucleic acid and/or interactive ligand binding, and wherein the metal nanoparticle is catalytically active towards electroless metallisation, and wherein the metal nanoparticles have a diameter of less than 3 nm or cannot be visualized by atomic force microscopy.

41. (New) A linear array of metallic nanoparticles or a nanowire produced by the method of claim 40.

42. (New) A small-scale network or electronic circuit, comprising at least one nanowire according to claim 41.

43. (New) The process according to claim 26, wherein the semisolid state is a gel.

44. (New) The process according to claim 29, wherein the said interacting groups are intercalating, groove binding or alkylating agents.

45. (New) The process according to claim 30, wherein the metal complex-nucleic acid conjugate is separated from a non-conjugated metal complex and/or non-conjugated by-products by gel filtration chromatography, ion exchange chromotography, ethanol precipitation, water rinsing or aqueous salt solution rinsing.

46. (New) The process according to claim 33, wherein the metal nanoparticle comprises alloys of Fe, Co, Ni, Cu, Ru, Rh, Pd, Ag, Os, Ir, Pt or Au.

47. (New) The process according to claim 40, wherein said growing step is a controlled growing step.